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Listing of Claims

1. (Currently Amended.) A photoactive electronic device comprising:

   (a) an anode;

   (b) a cathode, said cathode having a work function energy level E_3;

   (c) a photoactive layer positioned between said anode and said cathode, said photoactive layer comprising a cyclometalated complex of a transition metal, said cyclometalated complex having a LUMO energy level E_2 and a HOMO energy level E_4; and

   (d) an electron transport and/or anti-quenching layer positioned between said cathode and said photoactive layer, said electron transport and/or anti-quenching layer having a LUMO energy level E_1 and a HOMO energy level E_5, said layer comprising a quinoxaline derivative having Formula V

(V)
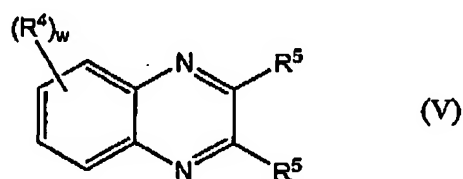
wherein:

R^4 and R^5 are the same or different at each occurrence and are selected from H, F, Cl, Br, alkyl, heteroalkyl, alkenyl, alkynyl, aryl, heteroaryl, arylalkylene, alkenylaryl, alkynylaryl, heteroarylalkylene, alkenylheteroaryl, alkynylheteroaryl, $C_nH_aF_b$, $OC_nH_aF_b$, $C_6H_cF_d$, and $OC_6H_cF_d$, or both of R^5 together may constitute an arylene or heteroarylene group;

a, b, c, and d are each an integer such that $a + b = 2n + 1$, and $c + d = 5$;

n is an integer equal to or greater than 1; and

w is an integer from 0 through 4;

with the proviso that:

   (1) $E_1 - E_3 < 1 eV$,

   (2) $E_1 - E_2 > 0$, and

   (3) $E_4 - E_5 > -1 eV$.

2. (Canceled)

3. (Original) The device of Claim 1 wherein $E_4 - E_5 > 0$.

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   4. (Currently Amended.) The device of Claim 1 wherein said electron transport and/or anti-quenching layer has an electron mobility of at least 10^{-7} cm^2/(eV•sec).

   5. (Canceled)
   6. (Canceled)
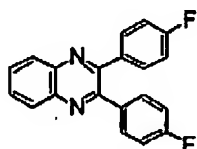   7. (Canceled)
   8. (Canceled)
   9. (Canceled)
   10. (Canceled)
   11. (Canceled)
   12. (Canceled)
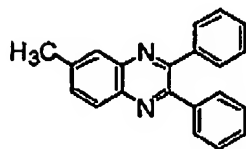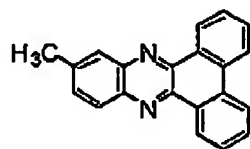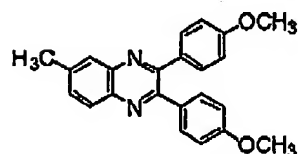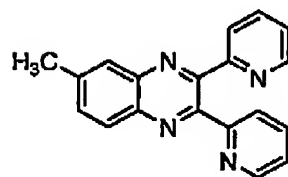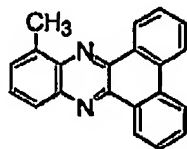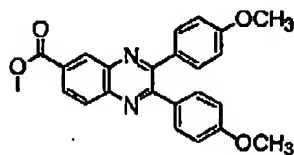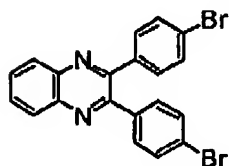
   13. (Canceled)

   14. (Currently Amended) The device of Claim [[13]] 1 wherein n is an integer from 1 through 12.

   15. (Currently Amended) The device of Claim [[12]] 1 wherein the quinoxaline derivative is selected from Formulae V(a), V(b), V(d) through V(i) and V(k) through V(ag).

V(a)

V(b)

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V(d)

V(e)

V(f)

V(g)

V(h)

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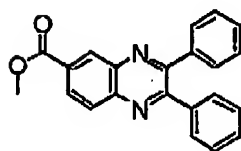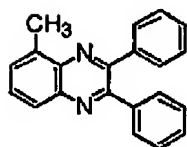
V(i)

V(k)

V(l)

V(m)

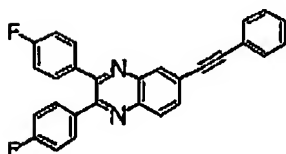V(n)

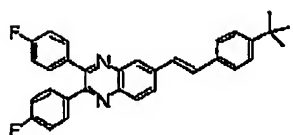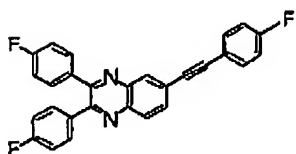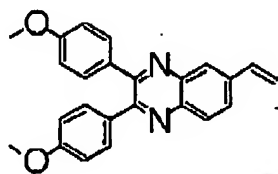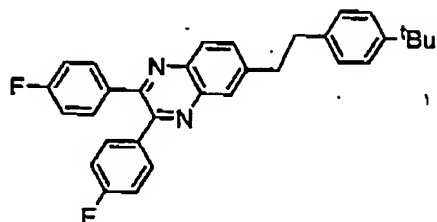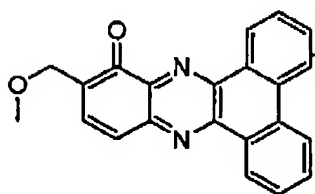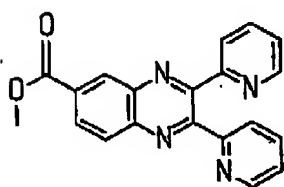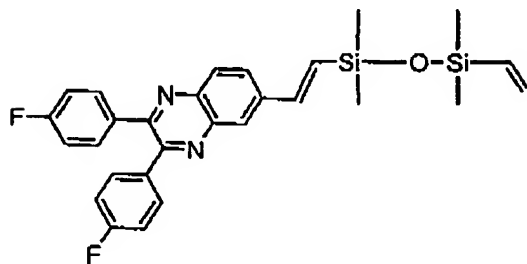V(o)

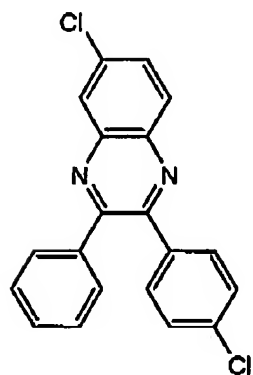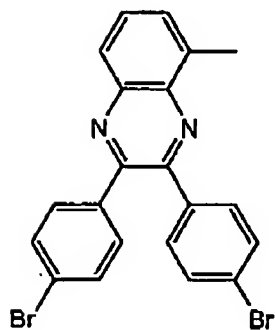Application No.: 10/612,482
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V(p)

V(q)

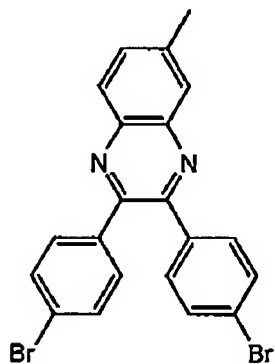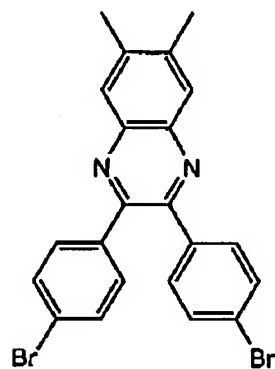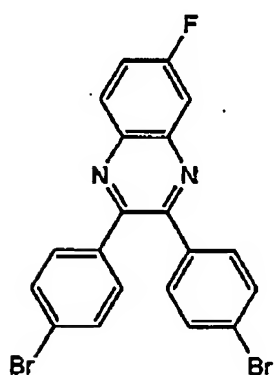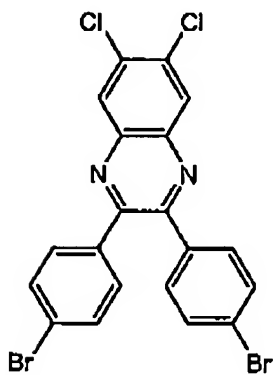V(r)

V(s)

V(t)

V(u)

V(v)

V(w)
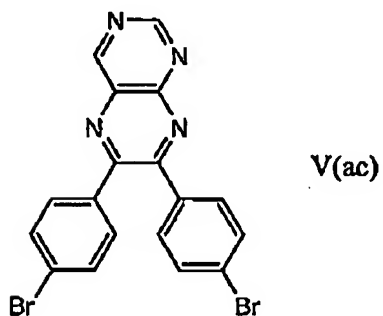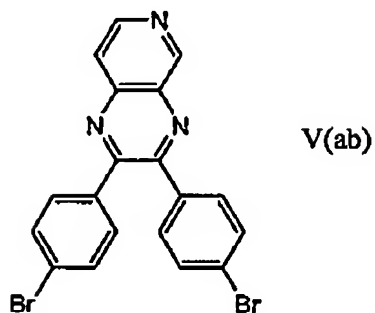
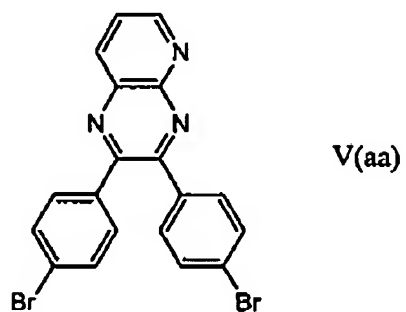Application No.: 10/612,482
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V(x)

V(y)

V(z)

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V(aa)

V(ab)

V(ac)

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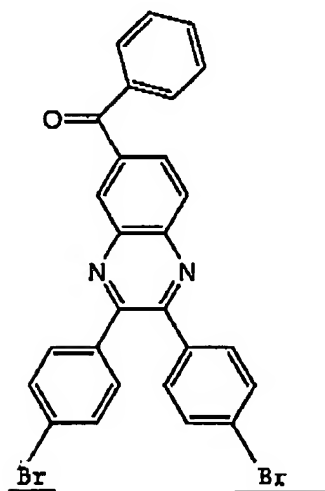
V(ad)

V(ae)

V(af)
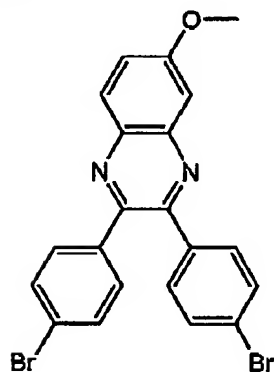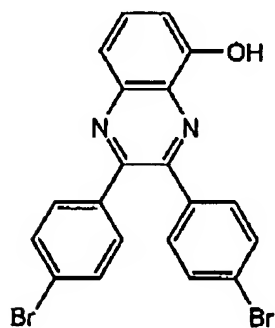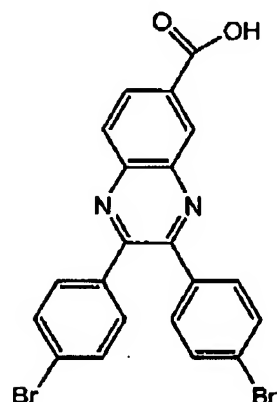
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V(ag)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Currently Amended) The device of any one of Claims 1, 3, [[-]]4 and [[12]] 14-15, wherein the device is a light-emitting diode, a light-emitting electrochemical cell, or a photodetector.